

**APPARATUS AND METHOD FOR ELECTROPOLISHING A METAL WIRING LAYER
ON A SEMICONDUCTOR DEVICE**

Abstract of the Disclosure

5 The present invention relates to an apparatus and method for electropolishing a metal wire layer on a semiconductor device. To electropolish the metal wiring layer, a wafer is dipped into an electrolyte solution, and positive and negative voltages are applied to the wafer and electrodes, respectively. The electrodes include a main electrode and a plurality of auxiliary electrodes disposed above the main electrode. In a preferred embodiment, the
10 plurality of auxiliary electrodes are mesh-type electrodes and are annular in shape and concentrically disposed, and thus the electrolyte solution can readily flow between them. Further, the metal wiring layer is preferably sequentially electropolished outwardly from the center of the wafer by sequentially applying negative voltages to the plurality of annular auxiliary electrodes. In this manner, a uniform electropolishing process is performed.

15
J:\SAM\0527\0527patapp3.doc